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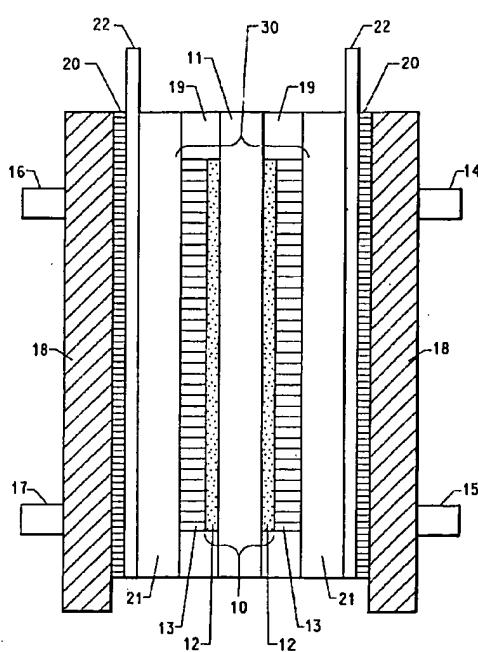
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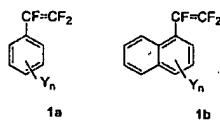
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(54) Title: TRIFLUOROSTYRENE CONTAINING COMPOUNDS GRAFTED TO BASE POLYMERS, AND THEIR USE AS POLYMER ELECTROLYTE MEMBRANES



(57) Abstract: A fluorinated ion exchange polymer prepared by grafting a monomer on to a base polymer, wherein the grafting monomer is selected from the group consisting of structure 1a, structure 1b and mixtures thereof, (INSERT 1a and 1b HERE) wherein Y is selected from the group consisting of  $-R_FSO_2F$  (sulfonyl fluoride),  $-R_FSO_3M$  (fluorosulfonic acid or salt),  $R_FSO_2NH_2$  (fluorosulfonamide), and  $-R_FSO_2N(M)SO_2R^2_F$  (imide); wherein M is H, an alkali cation, or ammonium; and  $R_F$  and  $R^2_F$  groups are perfluorinated or partially fluorinated, and may optionally include ether oxygens; and n is between 1 and 2 for 1a, or n is between 1 and 3 for 1b. These ion exchange polymers are useful in preparing catalyst coated membranes and membrane electrode assemblies used in fuel cells.



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